

Patent Claims

- 2       1. Method for the taut-holding of the weft thread in the  
3               mixing tube of the main nozzle of an air jet loom, whereby  
4               a length section of a weft thread supplied from preferably  
5               a pre-spooling device is impinged on by an air stream  
6               exerting a tension force onto the weft thread in the mixing  
7               tube of the main nozzle during a predetermined time  
8               duration, which air stream is at a predetermined pressure  
9               level, characterized in that the air stream impinges on the  
10          end region (5a) of the length section at an angle to the  
11          longitudinal center axis (4a) of the mixing tube (4) during  
12          the predetermined time duration.
- 1       2. Method according to claim 1, characterized in that the  
2               predetermined time duration corresponds to at least the  
3               duration of one weaving cycle.
- 1       3. Method according to claim 1, characterized in that the air  
2               stream is emitted at an acute angle to the longitudinal  
3               center axis (4a) of the mixing tube (4).
- 1       4. Method according to claim 1, characterized in that the air  
2               stream is emitted at a right angle to the longitudinal  
3               center axis (4a) of the mixing tube (4).

1       5. Method according to claim 1, characterized in that the air  
2                  stream is emitted at an obtuse angle to the longitudinal  
3                  center axis (4a) of the mixing tube (4).

1       6. Method according to claim 1, characterized in that the end  
2                  region (5a) of the length section impinged on by the air  
3                  stream is cut-off after the weaving-in of the weft thread  
4                  (5) in a woven fabric.

1       7. Air jet loom for the carrying out of the method according  
2                  to claim 1, encompassing at least one pneumatically  
3                  impingeable weft thread insertion means comprising a mixing  
4                  tube (4), at least one controllable valve operatively  
5                  connected via a pressure line with the weft thread  
6                  insertion means for the impinging on a length section,  
7                  which is to be held taut at least in the mixing tube (4),  
8                  of the weft thread supplied from preferably a pre-spooling  
9                  device, with a predetermined pressure level of an air  
10                 stream, at least one pneumatic pressure source and a memory  
11                 programmable loom controller (11) for the controlled  
12                 activation of the at least one controllable valve,  
13                 characterized in that the mixing tube (4) in the area of  
14                 its free end comprises an arrangement, that deflects the  
15                 front end (5a) of the weft thread (5) out of the plane of  
16                 the longitudinal center axis (4a) of the mixing tube (4) by  
17                 means of the air stream.

1       **8.** Air jet loom according to claim 7, characterized in that  
2                  the arrangement encompasses an inlet channel (6) with  
3                  outlet (6a) penetrating through the wall (4b) of the mixing  
4                  tube (4) and an inlet (7a) of an outlet channel (7)  
5                  arranged lying diametrically opposite the outlet (6a) of  
6                  the inlet channel (6).

1       **9.** Air jet loom according to claim 7, characterized in that  
2                  the arrangement encompasses a connection piece (16)  
3                  connectable with the free end of the mixing tube (4), with  
4                  an inlet channel (16a) with outlet (16a') and an inlet  
5                  (16b') of an outlet channel (16b) arranged lying  
6                  diametrically opposite the outlet (16a') of the inlet  
7                  channel (16a).

1       **10.** Air jet loom according to one of the claims 8 or 9,  
2                  characterized in that the longitudinal center axis (17) of  
3                  the inlet and outlet channel (6, 7) is oriented preferably  
4                  perpendicularly to the longitudinal center axis (4a) of the  
5                  mixing tube channel (4).